

CLAIMS

1. A geared cross roller bearing comprising:
an outer ring;
an inner ring relatively rotatable with respect to the outer ring; and
a plurality of rollers accommodated in a roller circulation passage formed between an outer ring side roller rolling groove formed to the outer ring and an inner ring side roller rolling groove formed to the inner ring so that rotational axes of the rollers intersect to each other,
wherein a gear is formed integrally with either one of the outer and inner rings.
2. The geared cross roller bearing according to claim 1, wherein a plurality of roller circulation passages are formed in the axial direction of the outer ring or inner ring.
3. The geared cross roller bearing according to claim 2, wherein a center of a gear abutting surface of the gear formed to the outer periphery of the outer ring and a center, in the axial direction, of two roller circulation passages accord with each other in the axial direction.
4. The geared cross roller bearing according to claim 1 or 2, wherein said inner ring has a protruded portion protruded over the outer ring in the axial direction and the gear is formed to the outer periphery of the protruded portion.
5. The geared cross roller bearing according to claim 1 or 2, wherein said outer ring is composed of a first outer ring section formed with a first outer ring side roller rolling portion and a second outer ring section formed with a second outer ring side roller rolling portion,

said inner ring is formed with a first inner ring side roller rolling portion opposing to the first outer ring side roller rolling portion and a second inner ring side roller rolling portion opposing to the second outer ring side roller rolling portion, and

said gear formed to the outer peripheral portion of the inner ring is arranged between the first inner ring side roller rolling portion and the second inner ring side roller rolling portion.

6. The geared cross roller bearing according to any one of claims 1 to 5, wherein another one of the inner ring and the outer ring is formed with an accommodation hole for accommodating a plurality of rollers into the roller circulation passage so as to penetrate in the radial direction of the another one of the inner and outer ring.

7. The geared cross roller bearing according to any one of claims 1 to 6, wherein said gear is hypoid gears for transmitting a rotation between two axes which are not parallel with each other and do not intersect to each other.

8. A table device which comprises a bed, a table turnable about an axis thereof, and a cross roller bearing for guiding relative rotation of the table with respect to the bed,

said cross roller bearing comprising:

an outer ring;

an inner ring relatively rotatable with respect to the outer ring; and

a plurality of rollers accommodated in a roller circulation passage formed between an outer ring side roller rolling groove formed to the outer ring and an inner ring side roller rolling groove formed to the inner ring so that rotational axes of the rollers intersect each other,

wherein a gear is formed integrally with either one of the outer and inner rings.